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ABSTRACT

This article presents the results of a study examining the impact of curriculum integration on prospective teachers. Utilizing a qualitative and phenomenological approach, the study follows a group of secondary education students through an entire semester course that employs curriculum integration. Intensive focus group transcripts and student journals allow the students' own voices to speak for their perceptions of the course and its impact on their preparation as secondary education teachers. The essay identifies the successful elements of the course and the areas of concern for use by other teacher educators attempting curriculum integration. In the final analysis, the students agree that the use of curriculum integration in this course was a better preparation for teaching than traditional curricula and also prepared them for teaching integration themselves later in their professional careers. (Contains 18 references and the course syllabus.) (Author/SM)

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Abstract

**Preparing Teachers for Curriculum Integration:
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Dr. Timothy A. Dohrer

This article presents the results of a study examining the impact of curriculum integration on prospective teachers. Utilizing a qualitative and phenomenological approach, the study follows a group of secondary education students through an entire semester course that employs curriculum integration. Intensive focus group transcripts and student journals allow the students' own voices to speak for their perceptions of the course and its impact on their preparation as secondary education teachers. The essay identifies the successful elements of the course and areas of concern for use by other teacher educators attempting curriculum integration. In the final analysis, the students agree that the use of curriculum integration in this course was a better preparation for teaching than traditional curricula and also prepared them for teaching integration themselves later in their professional careers.

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Applying curriculum integration to teacher education is itself an act of integration. On the one hand, we must understand the history and philosophy of curriculum integration in education, specifically its impact on how teachers teach and how students learn. On the other hand, we must also understand the culture and components of teacher education, especially recent calls for reform. The synthesis of these two is a vision of teacher preparation, and consequently of schools, that is radically different than the current vision. A teacher preparation program that is integrated would not only benefit the prospective teachers' learning but would also allow them to deeply understand integration and then hopefully implement curriculum integration in their own classrooms. Of course, creating integrated teacher education programs is no easy matter. On their own, curriculum integration and teacher education are incredibly complex and fiercely debated areas of education. Synthesizing the two seems an impossible task. However, the benefits to both prospective teachers and children are so compelling that the topic of integrated teacher education is today being seriously discussed and attempted. This article describes one attempt at bringing curriculum integration and teacher education together. It suggests that a more coherent view of teaching and learning will benefit both teachers-to-be and tomorrow's students.

In theory and practice, the initial preparation of teachers for work in integrated school environments is important to the continuation and possible expansion of curriculum integration. While others have established that curriculum integration has been an important part of general education for a hundred years (See Beane, 1997), the application of curriculum integration to teacher education "is in its infancy" (Wright, Sorrels, & Granby, 1996, p.39). A few journals and organizations have devoted entire issues or monographs to curriculum integration and teacher education, such as *The Preparation of Core Teachers* (1955) by the Association for Curriculum Development and *Action in Teacher Education* (Spring 1996) by the Association of Teacher Education. These presented research and examples of integrated teacher education courses and programs. However, there is clearly more room for research. "Little documentation exists about innovative ventures within teacher education programs that are designed to prepare teachers for interdisciplinary collaboration and integration of language and content" (Kaufman & Brooks, 1996, p.233).

In an effort to explore ways of preparing teachers for an integrated curriculum, the current study

was conducted to understand how preservice secondary education teachers make sense of curriculum integration during their work in an integrated teacher education course. What meaning do preservice teachers make of curriculum integration before, during, and after the course? How does curriculum integration effect preservice teachers' perception of teaching and learning? What is the place of curriculum integration in teacher education and schools? Such a study would help teacher educators evaluate how well current programs are preparing teachers for integrated work and inform future courses on the topic. It would also give us an insight into the way preservice teachers receive and understand the theories and practices involved in integrated curricula specifically and in education generally.

To accomplish this, I worked with a class of secondary education majors enrolled in a course called "CI412W: Secondary Teaching" taught at Pennsylvania State University. The purpose of this course is to introduce preservice teachers to integrated curriculum and to challenge traditional approaches to schooling. This course is required for all secondary education majors and is usually taken in the last semester of course work before student teaching. On average, 100 students are enrolled in the course from five discipline areas: English, math, science, social studies, and foreign language. These students are concurrently enrolled in a discipline specific methods course. Both courses run for ten weeks and are followed by a five-week field experience in an area school. The course is team taught by two professors and two graduate students. The students are divided randomly but equally across the disciplines into four separate sections and assigned an instructor. It is within these sections that the students form interdisciplinary groups of three to five people for the purpose of planning and creating units of instruction, as well as discussing issues related to education.

Additionally, this study goes beyond the confines of the ten-week course and collects data during and after the participants' work in a five-week field experience that occurs after the CI412W course. In this way, I had the opportunity to understand their initial perceptions of integrated curriculum philosophy and to understand how their perceptions got played out in the actual act of teaching. As a supervisor and instructor in the field experience, I had the opportunity to involve myself in the study through observations of the participants in the field, collecting journals, and conducting further interviews.

Methodology

As one of the instructors, I invited my students to engage in this study during the semester. This type of research, which involves the instructor and his/her students, is called "teacher research/inquiry" or "action research" and is done primarily from a qualitative perspective. In teacher inquiry, the teacher identifies an issue or problem to study and uses his/her unique perspective and position as a way to gain access to the issue through firsthand observations, interviews, and document analysis (see Hubbard & Power, 1993; Cochran-Smith & Lytle, 1993). Often, the students are asked to participate in the research as a way to further their own understanding of an issue or phenomenon. In this case, the students in CI412W are themselves prospective teachers and were invited to participate in understanding a crucial issue in their profession, specifically curriculum integration. Clearly, part of this also involves understanding my own role as a teacher in this course, my background in the field, the material I present, and the methods I employ.

In particular, this study utilized a phenomenological approach to understand the lived experience and perceptions of preservice teachers engaged in curriculum integration. As an instructor in the course, I had access to all students enrolled but focused the bulk of the research on a small group. In doing so, I collected some data from the larger group to help understand broad patterns. The majority of the data, however, comes from a smaller group of students in order to understand their detailed perceptions of curriculum integration.

For this study, 12 students were selected as participants in the focus group interviews. The participants included six male and six female students from all five subject areas in the course: math, social studies, science, English, foreign language. Four of the participants came from class sections other than my own. The participants included: Mark(math), Meg(math), Kelley(math), Aimee(math), Kerri(social studies), Eric(science), Andy(science), Dave(English), Rob(English), Chris(Spanish), Megan(French), Mike(Spanish). Each attended the four focus group interview sessions, contributed journal entries, checked interview transcripts, completed questionnaires, and submitted their final portfolios. They received no compensation for their participation and were excited about the opportunity to discuss their work in the course. Additionally, the 23 members of my section of the course volunteered to be videotaped during class sessions and to submit their final portfolios to me for

use as data. Their final course evaluations were also a valuable source of data about the class.

Context of the Study

The course itself and my connection to it both deserve some explanation. A general education class has been a part of the initial teacher preparation program at Penn State for at least ten years. In that time, it has been located in the final semester of a prospective teacher's coursework, along with a special methods course in their content area. These students also do a practicum or field experience in an area school where they are required to teach at least ten lessons. Usually, CI412W students do their student teaching the following semester. The content areas represented in the teacher preparation program and this course include English, math, science, social studies, and foreign language. Normally, the enrollment averages 120 students in the fall and 80 students in the spring.

The course has a total of four instructors, two professors and two graduate assistants. However, responsibilities for the course are divided equally among all four instructors. Each instructor works with a quarter of the students and all four instructors work together to plan and implement the curriculum. One professor is given overall responsibility for the course by the department chairperson. The course is taught in both fall and spring semesters for ten weeks, which is then followed by a practicum experience in a local school. The two graduate assistants in CI412W also serve as supervisors during the subsequent practicum.

The focus of the course over the past decade was on interdisciplinary education, rather than education generally. From 1991 to 1997, students from different discipline areas worked in groups of four or five to create two-week units of study that somehow included the discipline areas of the students. The group was asked to create a fictional middle school or high school and community. They then created a unifying theme and wrote detailed lesson plans for each of the 10 days in the unit. These lessons included actual curricular materials and readings, as well as handouts or overheads. A list of resources appeared in a bibliography. The unit had to be presented in a readable and interesting format, which usually meant bound at a local print shop or copy shop. On the final day of the course, all the groups from the four sections presented their units along with supporting material and posters in a "Unit

Fair" held publicly in the College of Education building. This allowed the other students in the class to see what their peers had produced and to ask questions of them. By 1997, this Unit Fair was also attended by education faculty and other students in the College of Education. A copy of the final interdisciplinary unit was given to the instructors who then placed them in the education library as models for subsequent students.

While the work of the students was on an interdisciplinary unit of study, very little time was spent in class on the theoretical or historical basis for doing interdisciplinary work. The two main texts used in the course were Robin Fogarty's *The Mindful School: How to Integrate the Curricula* (1991) and Heidi Hayes Jacobs' *Interdisciplinary Curriculum: Design and Implementation* (1989). These texts were assigned and discussed in the first three weeks and used as guides and models for the students' work on their units. Very little exploration of the history and philosophy of interdisciplinary curriculum or curriculum integration was done beyond these texts.

During the 1997-1998 school year, all four instructors began discussing possible changes to the course. Many of these discussions and changes resulted from increasing student complaints about the usefulness of the information, the applicability of the work, and the pedagogy of the class. Most often heard were complaints that the instruction was teacher directed, mostly due to the schedule of the class and the sheer amount of information needed to be covered. While this complaint could be attributed to the kind of students enrolled in the program, the instructors themselves were also questioning the course. We began to feel that the course was overly prescriptive. It was too focused on the end product of the unit and not the process. One of the instructors also mentioned that the course was not approaching education, teaching, and learning from a broad, holistic perspective. The original intent of the course, according to this instructor, was to challenge student thinking about secondary education. All four instructors agreed that the course should be about helping prospective teachers deal with the myriad of issues related to education in the 21st Century, rather than the creation of lesson plans that would never be taught.

At the same time as these discussions, I was engaged in research regarding curriculum integration and its connection to teacher education. In January 1997, one of my professors gave me a copy of a book published that month by James Beane called *Curriculum Integration: Designing the Core of*

Democratic Education. The book describes historically, theoretically, and practically an integrated curriculum for secondary education. This is not "interdisciplinary curriculum" that still maintains disciplinary boundaries. Curriculum integration is a philosophical approach to teaching and learning that allows the student to create and negotiate the curriculum around their own interests and challenges them to understand their place in a democracy. This concept rests upon the work done in the 1920s and 1930s by progressive educators, but Beane revives it and also draws a distinction between it and inter-disciplinary curriculum. During this time, the other CI412 instructors became intrigued by Beane's work and my enthusiasm for the research surrounding it. In a meeting of the four CI412W instructors in April 1997, it was decided that we would all read the book and reconvene to discuss its possibilities.

After reading and critically discussing the book, we decided to alter the entire CI412W curriculum to follow an integrated curriculum. We would attempt to adapt Beane's ideas to a teacher education course and model curriculum integration for our students . Originally, we tried to keep much of the past curriculum, but it became clear that the entire syllabus would need to be redone. At that moment, all four of us felt a certain amount of liberation. As our discussions continued, we decided to refocus the course by challenging students' views about teaching and learning while also allowing them to create their own curriculum. In this way, our students would not only study the history and theory of curriculum integration, they would also participate in it. By immersing them in integration, we hoped they would have a better understanding of it. We also believed that an integrated curriculum would allow our students to explore issues in education that were of interest to them as well as issues the instructors felt were essential to their growth as teachers.

Course Components and Structure

Because of the short time frame of the course and the powerful goals attempted, the design of the course is fairly complex. As instructors, we met over the course of several months to carefully consider, debate, and finalize every aspect of the curriculum, especially the syllabus. The "Overview" of the syllabus articulates the broad goals and objectives of the class:

> This ten-week course is designed to augment secondary education students' professional preparation as subject matter specialists. Built on the assumption that schools are complex environments in which larger social and cultural issues inevitably and continuously impact the work of teaching and learning, this course

> presents selected knowledge and experiences designed to introduce students to some of the complexities of responsible teaching. "CI 412W: Secondary Teaching" is strategically located toward the end of education course work to allow students an opportunity to explore the "big picture" of secondary education in a holistic, integrated manner. Students from various disciplines work together to explore their own identity as teachers, as well as the myriad of curricular, instructional, social, and political issues connected to middle school and high school education. To accomplish this, you will be given an opportunity to engage in constructing the course curriculum. At the heart of this is an integrated curriculum that will approach teaching and learning from a holistic, interdisciplinary perspective.

In addition, the course is also designed to achieve the writing intensive requirement of the university and to meet the goals of the secondary teacher education program conceptual framework within the college of education.

The content of the course comes from a negotiation between the students and the instructors. Utilizing Beane's model of curriculum integration, the students and instructors were asked to respond to three foundational questions:

1. What questions or concerns do I have about myself as a teacher?
2. What questions or concerns do I have about education?
3. What questions or concerns about education does the world pose to prospective teachers that they may not see or know about?

These responses were then discussed and common themes/topics created that formed the content of the course. Each section would explore some topics that were of interest to that section of students. However, the third foundational question allowed the instructors to present particular content. In this case, the four module topics of inclusion, literacy, multiculturalism, and classroom learning environments were maintained from previous semesters. A new section called "Conceptions of Teaching" explored three philosophies of instruction including explicit teaching, constructivism, and critical pedagogy. A two-day seminar on multiple intelligence theory and integrating the arts, organized by the office of preservice teaching, was embraced by the CI412W instructors and included in the course content. Finally, two class sessions were designated for discussions on curriculum integration and interdisciplinary curriculum. Readings for all this included a packet of articles, James Beane's 1997 *Curriculum Integration*, and a number of optional texts on each of the module topics.

The course assignments are another organizing factor of the CI412W class. Besides impor-

tant class discussions and activities each day, the main assignment of the course is a collaborative inquiry project on an educational issue, determined by the interest of the group. In my section, these included multiculturalism, entering the profession, survival skills, classroom learning environments, and the role of the teacher. Other class sections had groups such as power in education, school violence, discipline, and legal issues. Each group would research the issue, develop a lesson plan, teach the lesson to the rest of class, evaluate the lesson, and prepare a poster on the issue for display at the end of the course poster session. Individually, each student would also maintain a journal, which was collected several times during the course, and complete any other assignments from the instructor. At the end of the class, each student submitted a portfolio that reflected their learning during the course. In my section, the students requested that I hold exit interviews with each of them to discuss their performance and my final evaluation of them. The form of assessment for all these assignments was also negotiated between each instructor and his/her own students.

Results of the Study

The students involved in the study offered feedback on the components and structure of the CI412W Secondary Teaching course. They also discussed their perception and understanding of curriculum integration, interdisciplinary curriculum, and broader issues of education. In the end, the students felt that the course was one of the most useful in their initial teacher preparation program. In describing their reactions to the course, I rely heavily on the words of the students themselves from interviews, journal entries, course evaluations, and portfolios. The analysis of this data is informed by my own observations and experience as an instructor in the course. From this analysis, I identified five major themes that ran through the students' perceptions of the course. These include issues in education, collaboration through the inquiry project, studying and doing curriculum integration, understanding curriculum integration, and the impact of curriculum integration on teacher education. I conclude the chapter by presenting evidence of the overall impact of the course on these beginning teachers, as well as their suggestions for improving the course. These results, along with the perceptions of the instruc-

tors, will be invaluable in future semesters as we try to give prospective teachers the best preparation possible.

Issues in Education

One of the reasons for implementing curriculum integration in this teacher education course was the large number of questions prospective teachers have about the profession they are about to enter. As instructors, we had in the past utilized time informally to answer student questions about teaching. At times we had also been amazed at the number of questions they had and the sheer number. From a student perspective, the intensity of wanting answers to questions is compounded by a time element: this is the last education course they take before student teaching. Indeed, it is the last education class they take in college. The next step is the real world of teaching. "Frantic" best describes the emotional state of most of our students. As a way to respond to their needs, the student-centered nature of curriculum integration would allow the students to pursue these questions as a cohort. We began with a journal entry from each student asking the three foundational questions. Some of these were shared in a large groups setting and others in a smaller group setting in hopes of reaching some kind of consensus on which issues would be researched as group projects. When these prospective teachers saw others who shared the same concerns, they felt more at ease about their feelings. Aimee said: "For me, it was great to know that there were so many other people who had the same questions and concerns and needed to know the same stuff. I have so many questions and so many things that I want to know about before I go into the school and it helped to find out that everyone felt the same as I do. Because I thought I was the only one." A few students felt that the sheer number of questions indicated something wrong with the program. Mark explained: "I think it scared the blank out of me to know that everyone had the same questions. Because, I hate to say this because it is a damning criticism of the program, that everyone seems very unprepared at this point." However, the most took solace in the fact that others had the same questions they did.

In addition to the formal attempts to address student concerns and questions, the participants in the study commended the instructors who went out of their way to answer questions informally, often during class discussions. Kelley said that these moments were as useful to her as any lecture or reading

could be: "I've liked our class and I've liked the question and answer thing. I think its great to get into a class where its just like, here it is right in front of us, let's talk about teaching. Flat out, talk about teaching. Because we've never talked about teaching, just the act of teaching. That's what we do in class a lot and I think that has really calmed many of our fears about getting up in front of classroom and certain questions that people wanted answered and we didn't know where to go." Eric agreed and added that being able to ask instructors who have been classroom teachers themselves gave the answers more validity. He said: "The ability to ask our instructor almost anything about his experience in the classroom and get honest opinions and hearing some real life situations. That really helped me a lot."

Beyond the issues suggested by the students in the class, the instructors introduced other issues that were identified as essential in the development of prospective teachers. In all cases, these issues in education were approached from a more general view of education rather than through a content area. One student wrote on a course evaluation: "This course has given me more insight into issues that I will deal with as a teacher. By talking about and learning about these issues, I have changed my opinion of them. Also, I am viewing education in a more holistic manner, not just through the eyes of my content area." In approaching education from a broader perspective, many of the students commented that the course had better prepared them for the complexity of teaching, something that hadn't occurred yet in their teacher education program. They also agreed that the issues presented by the instructors, called modules, were extremely useful. While several students mentioned issues like multiculturalism and multiple intelligences, the most commonly cited issue was inclusion. Aimee said: "The modules that we are doing have been most useful, especially inclusion. That was so helpful to me because it is a topic that unless you are a special ed major you don't hear about it. It is something that every single one of is going to deal with in the classroom but we don't know anything about it. It has been so helpful. Like an IEP? What is that? And to hear our instructor's experiences and what we might be dealing with. It has just helped me tremendously." The reasons for choosing these particular issues was to formally address them in a non-disciplinary way. Ironically, the inclusion module in CI412W, clearly the most popular according to these students, is the only place in this teacher education program where secondary students are asked to formally explore inclusion.

Collaborating Across the Disciplines: The Inquiry Project

The Inquiry Project served as the major activity for the students in the course. The organization of the groups and the topics they researched were derived from the student's needs and concerns, thereby addressing one of the major tenets of curriculum integration. It was also important for the class members to create their own knowledge and pursue their research interests. The instructors guided the group's work by collecting research proposals, annotated bibliographies, and lesson plans while also meeting with the groups during the semester. The groups were also required to design ways of evaluating their lesson through peer and self-evaluations. These, coupled with the instructor's evaluations, would serve as their overall grade for the project. The culmination of the inquiry project was actually teaching the lesson to their peers. In some cases, these lessons ran a full three-hour class period. On the final day of class, every group participated in a public poster session on their topic.

The participants in the study had mixed reactions to the inquiry project, which also offers intriguing insight into collaboration, group work, interdisciplinary teaming, and peer teaching. During the research and planning phase of the project, most students were enthused about the work being done. Megan said: "I think my group is pretty good. We're all in different majors and I like it. I think a lot of us have a lot to learn and we're all learning together as we go along." A few students critiqued the projects because several of the topics were similar or identical to module topics covered by the instructors. As we will see later, negotiation between the instructor and students is a major reason for the success or failure in this area. The students also felt that the Inquiry Project had become the major focus of the class, usually due to the pressure they were putting on themselves and the very act of teaching to their peers. But despite some problems with the project, most felt generally positive about it. Kelley explains: "I just wanted to add that I don't want to discount some of the things that we discussed because I think they are really important. I wouldn't ever want to drop those from the course by any means. I think they were great. I think what we learned from our groups was great. I'm not saying that wasn't important because I really value what I learned. Those lessons really broadened my educational ideas and my own ideas about education."

In discussing the Inquiry Project, the prospective teachers offered interesting data regarding their view of group work. Collaboration has been an important concept in education generally over the

past decade and these particular college students indicated that their experiences with group work in high school and college had taken its toll. Kerri said: "I hate being in groups! (laughs). I know it is horrible to say. I love to assign group work but I hate working with groups." Dave was even more emphatic in his disdain for group work:

> I totally agree. I have never met anyone who likes group projects in a college setting. There is something about either the way people go about doing them or something. They never work. Less work gets done, there are all these conflicting personalities. I think it's always a losing effort. I can't blame this course for what happens. Actually, my group is pretty good for this course. But I never think that outside the class group work is a positive thing. Someone's gotta figure out a better way of doing it. I have had good experiences working with one other person that I picked ahead of time and knew I got along with.

Several of the comments critical of group work focused on the difficulty four or five college students had scheduling meetings outside of class. However, it is troubling that so many of these prospective teachers had difficulty working together or being enthusiastic about collaboration, especially since it is so popular in schools and the world of business. On the other hand, everyone did not share this feeling. Andy said: "I have to disagree. I'm a science teacher and I think group work is great. It's different with different subjects. It's a great constructivist practice which I think this class is trying to do and to work with other people in the teaching profession. It's what you are going to do later in life. You aren't going to be working alone, and this is a great experience to at doing it." This seems to be an area within education that needs to be explored in more depth, especially as it relates to future teachers.

One of the major arguments for the positive nature of group work in this course was the opportunity by these prospective teachers to work with their colleagues from other disciplines. In some cases, the interdisciplinary group work offered some insight into their own thinking and the possibilities of teamwork in secondary schools. One student commented: "My view of education has changed because I can see now how the whole school can be a community of learners. I have seen how teachers can work together and how teaching is not longer an "individual" profession." Another said: "I liked the interaction with the other disciplines and talking to others who I can potentially be team teaching with. The group work was very helpful in dissecting my ideas." This interdisciplinary work also offered the students insight into the possibilities of curriculum integration. Aimee said:

> Along with this, I am truly grateful for the opportunity to work with students

> from other disciplines. I think the lesson presentations were a terrific example of working together in groups and of curriculum integration. We were able to cross the lines of the separate subject areas and worked together to create a lesson based on a central theme. I think that curriculum integration is something that I will most likely have to deal with as a teacher and I am happy that I have had the opportunity to learn about it and experience first hand what is, how it is done, and what it looks like.

In fact, the response to the integrated nature of the course and the chance to work with peers from other disciplines was overwhelming in this study. For these students, it made their experience much richer. One student wrote: "I was also pleased to work with future teachers from other disciplines because we need to know how to work with other people to provide the best things we call for our students. It was helpful to do group projects with people from other backgrounds, because everyone has gone through different experiences."

Another important element of the project according to the participants was the chance to peer teach. As we have seen in other research, gaining additional teaching experience is important to beginning teachers and peer teaching is one way to do this (See Sears, Marshall, & Otis-Wilborn, 1994; Dohrer, 1998). These prospective teachers supported this contention. Aimee said: "I think it is good experience to get up in front of people. For me, I'm very nervous. For me to stand up in front and talk is progress. So it is great experience for me." Students like Andy saw value in doing several peer teaching experiences. He also recognized the power of watching other peers teach. "In science ed, we've done a lot of peer teaching. I learn as much from watching other people teach than doing it myself. We evaluate their peer teaching. I'm comfortable to teach in front of my peers." Ironically, a number of participants thought the act of teaching to peers was not authentic enough. Kelley explained: "I think that teaching to your peers is more like presenting to your peers. Even in our math ed class, when we do peer teaching, I feel like I'm presenting. I think you are more nervous when you are teaching your peers, whereas when I teach non-peers I am less nervous and its more like teaching because they see me in that role. In the peer classroom, I'm a student with them, so it is very hard to get in front of them and become a teacher." The focus group had an intense debate on this subject and was evenly split on the effectiveness of peer teaching. However, in this particular course, the students felt it was important, especially since previous versions of the class did not include peer teaching. One student commented: "I

am so happy this course was changed from its emphasis on writing an interdisciplinary curriculum to an opportunity to actually teach a lesson with peers."

Studying and Doing Curriculum Integration

One of the goals of this course was to engage students in study of curriculum organization, specifically curriculum integration. This was done through readings and activities. However, an equally important goal was for the students to actually experience curriculum integration firsthand. To accomplish this, the course curriculum was based upon a model developed and presented by James Beane in his 1997 book *Curriculum Integration: Designing the:Core of Democratic Education*. As I have described, this included a process for negotiating the curriculum so student needs and interests guided our work. We attempted to create a democratic classroom community where typical power structures are shifted and curricular decisions are shared. We also tried to strike a balance between teacher or expert derived knowledge and student derived knowledge. As instructors, we decided to hold off on our discussions of curriculum integration per se so the students could experience it as their students might someday. However, we did engage the students in discussions of disciplinary, interdisciplinary, and integrated curricula. During the final week, the students also read Beane's book and discussed their perceptions of it now that they had experienced it themselves. To be honest, as instructors we were divided as to the effectiveness of such a tactic. Two of us wanted to surprise the students by revealing the course organization at the very end. The other two felt that the students should scrutinize the organization as the course unfolded by reading chapters of the book along the way. As I will discuss next, while our decision to wait until the end was criticized by the students and instructors, the effect of experiencing and studying curriculum integration was certainly a positive one and should serve as a model for future work in preparing teachers for curriculum integration.

First and foremost, the students in the class recognized that the experience of doing curriculum integration was a powerful way to learn about education generally and about integration specifically. Renee wrote in her portfolio:

> While reading this book, I realized that the structure laid out in Beane's book for creating this curriculum is the method we used to begin this class. We identified what we wanted to learn and get out of this class through brainstorming exercises.

> If there were issues that you thought were important and we did not touch on them, as the instructor, you made some suggestions. Next we organized these questions into a few themes. After that, we divided into groups to create our lessons and posters on each topic. Also, we worked on the community atmosphere in the class to make this project run smoother. I think that it was successful in changing some of our ideas about power relationships in a classroom and the objectivity of what exactly we must learn in each class. Also, by pursuing topics of interest, we felt our research was important and felt that it was beneficial to ourselves.

Other students echoed Renee's understanding of the class and even insisted that more time should be allotted to discuss how this teacher education course was connected to curriculum integration. Kerri said: "In the middle of class it occurred to me that you all as instructors modeled Beane's book. This class is a small representation of curriculum integration. Because our class was based on this I feel as if we should have had more time to actually discuss it. I understand the time constraint, but this was probably the most important part of the entire semester. If you didn't make the connection of the book with the class, then I feel as if you almost have missed the whole idea of the class. CI412 was curriculum integration." The issue of when to discuss curriculum integration will be addressed later, but for now it seems clear that these students valued the opportunity to experience curriculum integration themselves.

As Kerri pointed out in her previous comment, one of the ways the instructors presented curriculum integration and many of the other topics was by modeling integration and good teaching. The influence teacher educators have on prospective teachers can be tremendous and the ability to model instruction, or practice what you preach, is becoming an important part of the literature on teacher education (Goodlad, 1990; Tyson, 1994; Cruickshank, 1996). Several of the students commented on this in the final course evaluation:

- I enjoyed the various teaching methods used in the class. Having different styles modeled in the class was very useful and helpful.
- I liked how we had a say in what we learned. I felt like everything was relevant. It was interesting to see certain philosophies of teaching in action.
- The class promoted curriculum integration not just by reading a book, but by modeling it.

The result of all this modeling is the hope that students will better understand both integration and "good" pedagogy and employ them in their own classrooms someday. While this study does not follow

students into their student teaching or first years as professionals, there are some indicators of how they plan on using this. One student wrote in his portfolio:

> The way this course was designed did incorporate curriculum integration in a positive way. I think that the procedures we used allowed me to get a better understanding of what curriculum integration really is and how effective it can be. This method was also very helpful to myself as a student, because we never really had the chance to voice what we wanted to know to feel confident when we go out into the schools in our other classes. I think that this teaching method was very effective in this course. and I can see how it could be useful in high schools. It would take a good deal of work to develop a way to use this in secondary school classrooms, but I think that it is good to try because this type of course setup gives the students a better sense of belonging. The students also have more say and can focus on topics they would like to know more about and what methods are most effective for this. I would like to have enough confidence in myself to try using this type of teaching method in my classes when I have a full time teaching position.

As an instructor in the course, I am very pleased with the impact of our conscious attempt to model instruction. The students in the study confirmed what the literature suggests about practicing what we preach. Teacher educators must be more diligent in doing this.

Finally, the act of doing curriculum integration coupled with the study of curriculum integration resulted in a deeper understanding of its history, pedagogy, and philosophy. By the end of the course, the instructors agreed that the course curriculum, issues, modules, and conceptions of teaching should be connected together through more explicit discussions of curriculum organization, including disciplinary, interdisciplinary, and integrated curricula. For example, by reading and analyzing Beane's *Curriculum Integration: Designing the Core of Democratic Education*, students connected the theory of integration to the practice of integration they had experienced in the course. As Renee explains, this includes both the positive and negative aspects of the philosophy: "Before I began reading this book, I didn't really think I knew very much about curriculum integration. It was just a term that had been thrown around class for the past two months. After reading the book, I realize that I have been experiencing a class designed on this idea. As a result, I have learned many of the benefits and disadvantages of this idea." While experiencing curriculum integration and seeing it modeled by the instructors were both important influences on their understanding, these students also needed an opportunity to study, discuss, critique, and scrutinize the philosophy academically and intellectually. Kerri said:

> After reading Beane's book, *Curriculum Integration*, I have noticed that this class was modeled on the basis of the book. As students of C1412, we set our own

> curriculum for this course. This has opened my mind to so many new and exciting realms of education that I never even knew existed. This book pulled what this course was about all together. I really wish we could have spent more time discussing this. It is so important that we as educators understand what is going on in education today. This book was difficult to read, but after our class discussions I feel as if I can critically analyze curriculum integration. Reading the book was a great way to end our class. It is now up to us to figure out what to do with our new found knowledge.

The students in this course have studied and experienced curriculum integration but have only begun to employ it in their own work as teachers. However, it can be argued that despite opportunities to practice integration they are better prepared for using it than teachers who have never been exposed to the philosophy. These graduates are at least ready to try.

A Deeper Understanding of Curriculum Integration

In order to understand the complexities and possibilities of curriculum integration, students in this course were invited to read, experience, and think about the organization of curricula by analyzing disciplines, interdisciplinary work, and curriculum integration. An important part of this study was to understand how the students perceive and understand this organization after taking the class. While the previous versions of the course explored the disciplines and interdisciplinary curriculum, the new version added curriculum integration, which is radically different than a traditional disciplinary approach to education. We felt that to understand curriculum integration, the students would need to both study it theoretically and experience it firsthand. As we seen so far, it appears that this approach helped the students understand curriculum integration more deeply than just reading about it. The challenge was to discover just how much these students understand different forms of curriculum organization.

To begin, I asked the participants to discuss the strengths and weaknesses of a disciplinary approach to curriculum and schools. As seniors in college, these students had seen more than 15 years of disciplinary curriculum. Indeed, only two of the participants had any kind of integrated experience in all those years. Their opinion of disciplines was mixed. In defense of disciplinary organization, the students cited the depth of learning that can be accomplished within a single discipline. They also felt it gave learning a clear focus and created, as Mike described it, a "a uniformity of knowledge." Renee felt that the disciplines must be retained in some form due to the current way our society is structured: "Call

me traditional, but I think the separate subject approach at the high school level must stay. First of all, there are certain subjects that are important in making sense of the world and in furthering education that just won't show up in an integrated curriculum. Also, our society is structured so that students needs to pass certain exams and demonstrate certain knowledge in order to pursue a college degree." Andy's view of working in disciplinary departments was much more utilitarian, especially because he would be a novice in the classroom. "It helps the teachers," Andy said. "Like I'm a science teacher and I can talk to other science teachers. But it does limit you. You don't get to talk to English teachers and find out what if what they are doing could work in your class. But it does help you try to find out new ideas and teaching methods, or what kind of equipment they have." The rest of the group agreed that especially at the high school and college level, some form of disciplinary study was important to the continued improvement of society.

On the other hand, these prospective teachers also saw problems with a disciplinary approach. Stacy said that students should have more holistic experiences that mirror real life: "I do not agree with the separate subject curriculum mainly because I feel that it does not prepare students well for the real world. I think Beane explained the reasoning the best when he said that students to do not approach a problem and say, 'What discipline should I use here?' Students need to use all their knowledge to solve problems." Mark expressed concern that the delineation of disciplines often leads to tracking. He said: "You separate disciplines but at the same time you go into tracking in many places. I've lived in many places, seven different school systems, and each one had tracking. It seems you place people into separate disciplines and then they get tracked. Once you get into the higher track or the lower track, that's where you are. You can't go out then and see what you are good at." Several participants noted that they had recently revisited their own middle and high schools as well as observed several school s during their field experience and discovered many are attempting some kind of integration. Meg said: "I'm kind of glad some of the schools I know are getting away from it. I always think that life is not a pie. You don't find everything separate from each other and I'm kind of glad middle schools are getting away from it, getting the whole pie back together." After years of intense disciplinary study and a sense for what is required for success in the "real world", these prospective teachers agreed that an education that was completely disciplinary would not prepare young people for success in

the world.

Many of the participants were excited about interdisciplinary curriculum and teaching because they seem to bring new excitement to the disciplines and makes student learning a richer experience. Rob said: "I think one advantage of interdisciplinary curriculum is that you can tie more things, more concepts and events together in much less time. For example, I suppose in English you could study the French revolution in history and French and then bring in the Romantics. Or say physics and calculus, you see application problems in calculus then actually bring them into physics and do a lab. Doing it all together in one block you can get more material in." Andy suggested that an important benefit of interdisciplinary study would be to create interest in areas that students find difficult. "Everybody in high school dislikes one subject," he said. "A lot of people hate math or science or English. It might get people more interested if they were together. I might have done better in the subjects I didn't like. It would just get me more interested in the other subject." Meg suggested that interdisciplinary curriculum would also be beneficial to the teachers involved, working to break down barriers between departments. Meg said: "I think it's important for all the subjects to be put together so all the teachers know what's going in the other areas. I know a teacher who is teaching science and reading all the books his students are reading because he knows isn't the only thing that they think about." By pursuing an interdisciplinary curriculum, the teachers would enrich their students lives, make learning more authentic, and create connections with their colleagues.

These future teachers did have concerns with interdisciplinary curriculum. The most difficult part about implementing interdisciplinary work would be changing the way the current system operates. Mark said: "I think that it could work but it would take a massive restructuring where all the teachers would teach on a team. I was in a school where they were doing something like this. The teachers would sit down and have a big planning session. It's possible. But not the way most schools are set up now." Most of the concerns centered around teachers and the difficulties in moving from a culture in schools where teachers currently work alone to a different kind of school where teachers collaborate and communicate. Kelley said: "Getting two teachers to work together and have the same goals and opinions and ideas on what to be taught and how to teach it is going to be difficult. Everybody has their own opinion and ideas. You are going to find some people who mesh together and then other who can't work

together at all. So that would be a difficult part about integrating." Kerri added that just getting teachers to talk with each other is a challenge: "I think that it is a communication problem. It is hard enough to get two people together working when they have two different teaching styles and then you get more than two, then you get mass confusion. You think something is important and they don't, whose stuff do you teach?" It is telling that these novice teachers can already identify the kind of "territorial" feelings that exists in schools between departments and teachers. They admit there will be difficulties, but moving from a purely disciplinary approach to some interdisciplinary work is not impossible. It only requires teachers willing to bridge the distance.

As the course began, it was evident that none of the participants had ever heard of curriculum integration. As the semester progressed and they experienced and read about curriculum integration, the students struggled to understand both its benefits and problems. For every participant in the study and every student in the class, this was their first experience with curriculum integration. Many of them relied on Beane's explanation of integration. Dave said: "After reading the Beane book I have come to a better understanding of the idea of an integrated curriculum....By integrating the curriculum it gives teachers a chance to work together to make students' experiences more connected and relevant." Aimee picked up on a broader meaning for integration: "According to Beane, curriculum integration has a different meaning than I thought. He describes it as a curriculum design that seeks connections in all direction-creating a sense of unity. Beane also believes that curriculum integration involves four major aspects: the integration of experiences, social integration, integration of knowledge, and integration as a curriculum design." As their thinking progressed, some of the students began to incorporate curriculum integration into their own philosophy of education. Kelley explained curriculum integration in this way:

> What is curriculum integration? I believe that curriculum integration is forgetting everything we know about education today and starting over. Curriculum integration intends to erase subject-specific lines and create a learning environment that focuses on organizing centers which allows students to work through real world situations. This process allows students to see how each of the different disciplines are integrated into the discussion or solution of the topic. Curriculum integration is also a way to have help students understand the world around them. In addition, it creates the democracy that America claims we live in.

After a limited experience with the concept, these students could at least articulate the basic tenets of curriculum integration and see the possible benefits such a curriculum would have on secondary stu-

dents.

They were also able to foresee problems with curriculum integration, especially when it would clash with the existing structure of schools. Dave said: "I feel that I understand the idea of an integrated curriculum but I think I would have a difficult time implementing them in a school." Renee went even farther in articulating her discomfort with the changes curriculum integration would require in knowledge and learning.

> Do I think curriculum integration is useful in secondary schools? I am a little skeptical. One of the biggest problems is the structure of society. The knowledge that students are expected to have as they enter into college and the path they must take to get there cannot be easily accomplished through an integrated curriculum. Within each discipline, there are important concepts that will be sacrificed to curriculum integration. I don't know if I am willing to make this sacrifice as an educator.

The purpose of secondary education was also a concern. For several of the participants, secondary education is meant to prepare students for college. By altering so radically the structure and organization of secondary education curriculum, these future teachers felt they would be doing a disservice to their students. Rob explained: I think one concern that I see is how does is prepare students for higher education? If one goes through the integrated curriculum learning about social issues and things like that, how can they prepare for an SAT in order to get into college if they don't have the tools that they need? Or how can they be ready for the demands of the passive classroom in college when they had been in active settings prior to higher education?" These are the same arguments used in the past for maintaining the disciplinary structure of high schools. Unfortunately, this limited exposure to the history of curriculum integration did not allow the students to explore counter arguments such as the results of the Eight-Year Study or examples of schools that are currently using curriculum integration.

Unfortunately, it is clear from this study that while many of the students in the class have a basic understanding of curriculum integration, there is still an enormous amount of confusion concerning it. Much of this confusion comes in differentiating between curriculum integration and interdisciplinary curriculum. Of course, this is the same problem that has been plaguing curriculum integration for almost a hundred years. While Stacy reported that she was "still somewhat confused as to the difference between curriculum integration and an interdisciplinary curriculum," others were at least able to see a

difference between the two. Rob explained the difference this way: "I felt that interdisciplinary teaching is something that includes different disciplines, but these disciplines remain separate...I felt that curriculum integration was something more holistic where you might take a piece of something and try to understand it from multiple angles." After reading Beane, Aimee was able to identify that her initial perception of integration was closer to interdisciplinary curriculum.

> Before reading this book, I thought of curriculum integration in two different ways. One, curriculum integration to me meant to "integrate" different disciplines together - to connect different subjects together in a lesson or in the classroom. Beane describes my meaning of curriculum integration as a "multidisciplinary" curriculum. Beane stated that in curriculum integration, planning begins with a central theme and moves outward through the identification of concepts related to the theme and activities used to explore them. In a multidisciplinary approach, planning begins with the recognition of the identities of the various subject as well as the content and skills which are to be mastered within them. This way of thinking looks at a theme and thinks, "What can each subject contribute to this theme?" The other way that I thought of curriculum integration was incorporating "real-life" situations into learning. I thought that what is taught should be relevant to actual situations and in the classroom, connections to these situations should be made.

Aimee is clearly struggling to understand the differences between interdisciplinary and curriculum integration but the complex nature of both and their opposition to traditional forms of curricula make the process difficult.

Adding to this difficulty is the inability of writers and researchers to make a clear delineation between the two forms of curriculum. Over the years, the term integration has been used in so many different ways that its meaning has become confused. Beane (1997) attempts to separate interdisciplinary curriculum from curriculum integration by explaining that interdisciplinary curriculum still maintains distinct disciplinary forms of knowledge. True curriculum integration, on the other hand, uses student concerns to organize learning, not disciplines. Kerri explains this: "Beane's idea of curriculum integration is not the same as an interdisciplinary curriculum. Interdisciplinary curriculum calls for the combination of the different disciplines working together... What Beane is talking about is so different. In an integrated curriculum the curriculum is based on a set of themes and overall questions posed by the students. It is directly student centered. The disciplines are secondary to the curriculum." Unfortunately, as an instructor even I fell victim to the confusion between the two. One of the readings given to the students was an article by Kathy Lake (1994) that surveyed current research on interdisciplinary

curricula. Unfortunately, the title of the article is "Integrated Curriculum". This initially confused the students in class but it also served as a way of discussing the confusion and contrasting the two different approaches. In this section from her journal, Kelley is clearly struggling to pin down the conflicting terms:

> In order to answer what is interdisciplinary education you need to understand the difference in terms (according to Beane). I believe after reading both Beane and Lake that interdisciplinary education involves developing a theme that works with and relates to two or more subjects. There are objectives for the theme as well as for each subject-specific area. The topic or theme tries to show how the information is related through the subjects. While interdisciplinary education has a goal of demonstrating how knowledge is related it tends to keep the lines between subject areas apparent.
>
> Overall, I believe that interdisciplinary education is the beginning at how to give students a deeper understanding of the knowledge they will need later in life. It aims to make learning more meaningful and less fragmented for students. I believe that interdisciplinary education is a definite method of how to change education for the better.

This struggle appears to have had some positive effects, however. Some of the students began to see interdisciplinary as a step towards the more complicated curriculum integration. Meg said: "I think the integrated curriculum talked about in the Lake article is also good, even though Beane discounts it, because it brings the disciplines together. I see that as more possible than curriculum integration, mainly because people do not know what curriculum integration is and are not willing to changed to what they do not know." Renee agreed: "The Lake article seemed to focus on a curriculum which focused more on connecting various disciplines than on involved student choice and socially constructed themes. It seems, however, as if Lake's integrated curriculum could be an intermediary step in achieving the integrated curriculum of James Beane." While Beane himself has disagreed that interdisciplinary curriculum is a step toward integration, these students echo the thoughts of other educators concerning a continuum of curricular organization (See Erb, 1996; Brazee & Capelluti, 1995; Clarke & Agne, 1997).

However, the confusion between the two was a major point of contention among the class members. This erupted during one of the focus group interview sessions and is a stark example of the confusion. As the participants discussed the meaning of curriculum integration, it became clear that several people were talking about interdisciplinary curriculum but were using the term "integration" to describe it. Aimee took issue with this use of the term.

Aimee: What I think about curriculum integration, I think you were supposed to get outside your subject area. Like you weren't supposed to take a topic and look at it from math, science, history, whatever. You were supposed to take a topic and go with it. That's not what you guys are talking about. You guys are talking interdisciplinary, which is where you take something and you look at it from each subject. So to me that presentation that we did was a perfect example of curriculum integration because we did not even think about our subject areas. We just went at it and worked together. That to me was great. That was curriculum integration. That's what I got out of the Beane book, what we did.

Interviewer: Dave, let me ask you, what's your definition of curriculum integration?

Dave: My definition of curriculum integration (laughter) is.. the way I look upon it is an academic subject that would be appropriate in a high school and once you are in that subject you explore every aspect of it. When I say that…if you look at something like World War II, you are going to have literature and art and history. While you are not necessarily looking at it from those different angles, then its all there. Now if you look at something like survival skills for a teacher, where you can't spread out and go in all those different directions, so…maybe it's the subject matter.

Mark: Exactly. You are limited in the subject matter to the confines of that subject matter. Being a math person, I couldn't really apply my math to that lesson at all. I really do think that curriculum integration, what it comes down to is, we may have learned a lot but I'm not looking so much to take a lesson to the school as much as I'm looking for ways to integrate with other disciplines and I don't think I learned how to integrate with other disciplines in a manner in which I could use it in an applied setting. When you get down to it, when we get into the schools, I'm going to be a math teacher. Someone else is going to be social studies teacher. Someone else is going to be a science teacher. We could take a topic and look at it from different sides, different angles, and teach a unit. This presentation that we spent a couple weeks preparing didn't really prepare me to do that when I get to the schools.

Kerri: So you are looking at this course from, you want this to have nothing to do with curriculum integration. You guys are looking for an interdisciplinary thing, right? Because what you are talking about is interdisciplinary. You are throwing the words around as if they are the same. Did you read the Beane book? The part for me, when I read it, that was so important was when he went through how many different definitions there were for interdisciplinary and the terms that people use interchangeably for curriculum integration. When I listen to you talk, you say curriculum integration but yet you are using the term for interdisciplinary. Sounds like to me that you are looking for from this class how to work with interdisciplinary curriculum.

Mark: Like we were saying, there are subtle differences…

Kerri: There are not subtle differences. They are totally different.

Just as these beginning teachers argued over the meaning of curriculum integration, educators and writers continue to debate the issue. The debate is important for a variety of reasons. There is clearly a difference between interdisciplinary curriculum and curriculum integration. If we are to have any discussion about them or hope that they will be implemented in schools, we must be able to name them

differently to avoid confusion. It has also been argued that the reason curriculum integration has not been widely accepted is because people confuse it with interdisciplinary curriculum and vice versa (Beane 1997). For the purposes of this study and this book, there is another reason to understand the confusion surrounding the two. If we hope to introduce prospective teachers to curriculum integration and prepare them to teach in an integrated curriculum, then teacher educators must find ways of explaining the differences and clarifying the two terms. Only then will prospective teachers be able to critically understand the complexities of both and make informed decisions about their use in schools.

In the end, these debates, readings, and experiences with curriculum integration offered these future teachers something few graduate with these days: a basic understanding of curriculum integration. This is exemplified by the students' own comments about the impact of the course. One student wrote: "It has really opened up my views of education. We have discussed many topics that are of concern to many of us. It has also provided me with thoughts on discipline, conceptions of teaching, and classroom management. It showed me how many things are actually combined in the act of educating." Several students commented that they would now like to work in a school where they could attempt curriculum integration or at least some interdisciplinary work. However, they recognize and understand the difficulty in doing so. Kerri said: "This is not just a change, this is a massive reconstruction of education. This requires so many changes there is a part of me that says no way will this ever happen. How will we assess students? Are the students really competent to make these kinds of decisions? Does this mean that every year we will have a different set of themes? How do we separate students? Will one theme dominate others, therefore receiving more attention or funding? These are just a few questions that will have to be addressed." Despite the difficulties, the majority of teachers in this study felt they grasped the concept and were looking for ways to use it eventually. Aimee said: "I had not thought it was possible to integrate certain subjects into math but I am learning that I am wrong. I knew that science could be brought into mathematics, but I never imagined that I could bring things like English, art, music, etc into it. Now that I have seen that this is possible I am starting to think that this is very useful, beneficial to students, and more or less necessary. At this point, I do not know specifically how I am going to incorporate other disciplines into my classroom, but I am looking into creative ways to do so."

Impact of curriculum integration on initial teacher preparation

As students in an education course that consciously attempted to both study and engage students in curriculum integration, these prospective teachers are valuable resources in trying to understand the positive and negative aspects of such a course. Their perceptions of the course and its effectiveness in preparing them to teach can provide teacher educators with valuable data in further expanding integration in teacher preparation. For the students in this class, curriculum integration was very effective as way to explore education. By placing their needs and concerns at the center of the curriculum, the students were able to learn about things that were immediately relevant. This resulted in a high level of interest and enthusiasm in the class. One student wrote: "Through this course and without realizing it, I have learned a great deal about integrated teaching. I think the course was well organized and included many topics from education psychology, educational theory, and curriculum and instruction. I felt that my learning was much more meaningful through the integration." In addition, by experience curriculum integration firsthand, these prospective teachers are more prepared to understand integration as full time teachers. Eric said: "I think the interdisciplinary work and curriculum integration will be helpful down the road if we get into a school where they are doing that. Or if we have the opportunity to do a lot of things on our own that we will be able to incorporate these things because we had them. We may not use them today or tomorrow but maybe down the road we'll have a kid who can't learn by reading out of book and we'll need to play music or something."

The students also identified problems that occur in teacher education when attempting curriculum integration. As in secondary schools, the traditional view of knowledge as disciplines and departmentalization at the college level can be a roadblock to integrated work. Mark explains: "I don't know if integration can ever happen in college because you have to go to the math department to learn math. We need to have a class that will bring us back to our roots. If our math classes would get us prepared to teach, then I could see an integrated teacher education program but right now, because we have to work with other colleges and departments, it can't work. You have to revamp more than just teacher education." Another critique is that while these prospective teachers studied integration and experienced themselves, there was no opportunity to see curriculum integration in a secondary school with real students. Many of them were unsure whether curriculum integration would actually work.

One student wrote: "Due to the fact that I am a product of integration, I think I do partially understand practice of integration. I sincerely hope that I can use some if it in my high school classroom. The only question I have is: is it feasible to do in a secondary classroom or is it too much? I guess since we learned about it, it would work, but I am skeptical because we did not actually see it first hand put to use in a secondary class." Similarly, several participants in the study questioned the usefulness of exploring integration in teacher education when it is not being used in many middle or high schools across the country. Rob said: "Why should we learn about curriculum integration if there's a good chance that we won't be teaching in a district which allows it? Or are we learning about it so we can bring it up in a school that we eventually get a job in? I was just wondering."

By far the biggest concern for these students in considering the impact of integration on teacher preparation had to do with time. As I have discussed earlier, the instructors made a decision not to discuss curriculum integration until the end of the course, after the students had fully experienced integration themselves. Just as the instructors, the students were divided on whether this was useful. Some felt that waiting until after they had experienced curriculum integration gave the discussion of integration more impact. Kerri and Aimee explained it this way:

Kerri: On Monday when we were talking, it was great closure for the class. It dawned on me, Oh my god, I read the book and I didn't understand it but now I'm sitting in class and this entire course was built from everything Beane said. If you read the book and you did the class and you reflected on yourself, that was the class. If you didn't get that out of the class, then you missed the big point of the class. I totally saw that in the end.

Aimee: I went through the whole lesson thing and then I read the book. And as I was reading the book I thought, wow, I did this. If I had read the book first, I would have thought about how I have to do it... you think about it in a different way because you know you have to do certain things. If you just do it and then realize what it is later, and that's what it is called. It would have been different for me to read the book and do the lesson than the other way around. I don't know how to explain it but I got it.

However, most class members agreed that waiting until after the experience resulted in further confusion over the meaning of curriculum integration. Rob said: "Regardless of what I learned about teaching in general, I'm not so sure I got a full understanding of curriculum integration. I think this is so because the concept of curriculum integration was essentially veiled until the end. It was then that curriculum inte-

gration was unveiled and we were just supposed to accept it. I think that the course would have ran a bit better if the curriculum idea was presented at the beginning of the course, then the students could make an evaluation about curriculum integration at the end." For two of the students, the meaning of curriculum integration and its connection to this education course was not apparent until after the class was over during our focus group session! As an instructor in the class, I thought it was unfortunate that even after the course was over, these students still hadn't made the connection.

The other time issue regarding curriculum integration and teacher education was the placement of this class in these students' preparation program. This course occurs in the last semester of the program for only ten weeks (the remaining five weeks are spent in a field experience). The participants all agreed that this course, which allowed them to study education holistically and via their own needs and concerns, should be offered earlier in the program and for a longer period of time. Eric said: "Unfortunately, this course comes at the end of my college career. I would have benefited even more if this course were offered when I began in the college of education. Also, the course time frame could be extended for further discussion of relevant issues." By employing curriculum integration earlier and in other education classes, these students believe that their entire preparation program would be much more relevant and useful. A more integrated program would also improve the communication and collaboration among faculty members, allowing for a decrease in repetition and gaps in student knowledge. Megan attributes a lack of integration among courses and professors to be a major reason why she felt overwhelmed at times in the CI412W course. "I think one of the reasons why some people like myself were slow to get it or didn't get it until right now is because I was so caught up in all the information I didn't get before, like inclusion, multiculturalism, how to enter the profession. I was so caught up in that stuff that I missed the point of the book." The lessons learned from this experiment with curriculum integration in teacher education and the students' subsequent reaction to it are indicators that integration should be further explored in the preparation of teachers.

Conclusions and Implications

In the end, the participants were unified in their appreciation for all they had learned during the ten-week course. For many, this integrated approach allowed them to learn more about education

than any other course in their teacher education program. Christy wrote in her final journal entry:

> I can honestly say that I am disappointed that this class will be concluding. I feel that this has been the first and only class in which we have taken a critical and realistic view of education, teaching, and learning. We have had the opportunity to discuss difficult issues that other classes have opted to avoid for whatever reason. I found our class to be one in which people were free to express their thoughts and experiences. In addition people were actually interested in actually hearing other peoples thoughts and experiences. This class, by far, has been one of my best classes here at Penn State.

Several students echoed this comment. They also suggested that the chance to pursue issues or questions of concern to the students, not the instructors, was another important element of the course. Kerri said: "I find that class overall is a great experience. I've never had a class where you come in all together and you decide what you think is important. I think that is so helpful. I have to give you kudos for letting us decide what we think is important. Professors teach courses for so long they forget what we want to learn and I thought it was great that we could decide what we wanted to do. I think its great." The result of all this are students who feel that this course was useful and better prepared them to teach. Aimee said: "It really blows me away to realize all that I have learned. This class introduced me to many important educational issues and allowed me to realize the impact that they will have on me as a teacher. This class has taught me to think in a new way and I am grateful for the opportunity to do this."

At the beginning of the course, these future teachers did not feel very prepared to teach generally nor were they ready to teach in integrated environments. Many felt they were prepared in their content areas but not in teaching in those content areas. The actual act of teaching was still a mystery. By the end of the course, this apprehension had dissipated. Whether they were in fact more prepared as a result of the course is difficult to determine without a longitudinal study of their work as full-time teachers. However, their feelings of preparedness and confidence will certainly have an impact on their effectiveness initially in a classroom. For these students, the course did indeed help raise their confidence. They at least felt prepared. One student wrote in a final course evaluation: "This course has given me the terminology, explanation, and knowledge base for some of the ideas in education. This course has also shown ways to teach and how and what an educator is supposed to be." For some, the course brought together educational theory and educational practice. Rob said: "I also learned the

importance of theory and how we as educators should read theory because it can only help to strengthen our practice." After the course and field experience, Eric had become very aware of the impact of the course on theory and practice. He said: "I think I was most prepared for the theories behind lesson plans and writing or developing a lesson. That's not how it works in reality, the practice is much different that what we learned, but I felt comfortable writing lesson plans. Actually, compared to what my teacher writes, my lesson plans were like a novel. Hers were two sentences she handed in to the principal that she wrote at five thirty that morning."

Possibly the greatest impact that this course had on these prospective students was in helping them create their professional identity as educators. By allowing them to pursue their needs and concerns, by challenging their views on education, and by engaging them in the critical study of educational theory and practice, these future teachers were forced to articulate their identity as teachers, something very few of them had done. In final course evaluations and comments about the class, the impact this course had on their identity appeared more than any other. Here are a few comments from final evaluations of the course:

- It has opened up my view to education. I never really thought about the things we discuss and I like that. Education has become a more important task (teaching) and is slowly coming out that it is not as easy as it looks.

- This course made me think about what I want students to learn and how to best teach them to achieve this. It made me rethink and realize my goals and methods as a teacher.

- This course has opened up my view of education. I learned about me as a teacher and what I like and don't like. I also learned about the educational process and I got necessary information that will help me in my profession and classroom.

Part of this creation of teacher identity involves a critical understanding of who we were as students, who we are now, and who we want to be as teachers someday. By involving students in the educational process through curriculum integration, they were able to ask these questions and see themselves and education critically. Renee explains this well in her portfolio:

> Beane's book *Curriculum Integration* is now another idea to add to my theoretical understanding of education. This is the most troubling thing for me as a student of secondary education. In the past four years, I have learned so many different theories and ideas about education, both teaching and learning. I have also looked

> at a lot of research findings and literature. The majority of these ideas differ from the way I was taught in school. Now, as I enter the profession, I need to make some decisions. This scares me because I have it lot of good ideas, but implementing them is problematic. It is hard to pick and choose specific ideas to slowly incorporate as I develop a teaching style. Only after some time in the profession will I be able to include each new idea that I find inspiring from books such as the one I just read.

By employing curriculum integration in this teacher preparation course, we were able to accomplish the major goal of the entire teacher education program: to graduate teachers who see themselves as life-long learners, critically analyzing themselves and constantly working to improve their practice.

This study itself holds certain implications for the CI412W course and for teacher education generally. On a local level, the instructors have taken student suggestions to improve the course further into consideration along with our own perceptions of the course to make slight changes for next semester. For example, due to the intense time frame of the course, students will explore the four module topics via the Inquiry Project. Individual questions about other areas of education will be answered in class discussions. In this way, the topics explored via the projects will be more limited and allow for more intense research and, hopefully, more focused lessons. As students and instructors, we are struggling to strike a balance between a student centered and a teacher centered classroom. We hope this slight change in the focus of the Inquiry Projects will help achieve this. Students also suggested that there be more opportunities to practice interdisciplinary and integrated curriculum planning, as well as more time to discuss them theoretically. As this study has shown, the confusion over these forms of curriculum organization is considerable and demands more class time for discussion and analysis. The students also suggested there be increased collaboration among the four instructors so all students have similar experiences in class. They also wanted this collaboration expanded to the discipline-specific methods instructors. Finally, the instructors are continuing to pursue possible field experiences in areas schools that are trying integration that will link the theoretical work done in this course to real practice. This requires enormous articulation, communication, and organization but the students and instructors of this course feel the benefits of such an arrangement would far outweigh the work needed to accomplish it.

Our understanding of curriculum integration is still developing. Its impact on teacher education is only now being considered. More research is clearly needed. However, studies such as this one show that curriculum integration is a powerful philosophy of education and can be extremely effective in producing the kind of thoughtful, critical teachers needed in our schools. As a bonus, engaging in curriculum integration in teacher education also results in teachers who are prepared for work in integrated and interdisciplinary school environments. As we proceed into a new millennium where world problems will be solved in holistic ways, our schools will need teachers who can give our students the skills to succeed. Teachers cannot be expected to do this without adequate preparation or training. Certainly, this will need to be done with current teachers through in-service and professional education programs that are reconceptualized to include curriculum integration. It will also mean that initial teacher preparation must change as well, especially as an increasing population demands more and more teachers. Teacher education has an opportunity to implement these kind of integrated experiences today and begin to graduate teachers for tomorrow who will be adequately prepared for curriculum integration. But the change must occur now lest we squander the opportunity and continue graduating teachers prepared for the past instead of the future.

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CI 412W: Secondary Teaching
Fall 1998

Monday & Wednesday 9:05 am - 12:05 am
August 26 - November 4

Overview

This ten-week course is designed to augment secondary education students' professional preparation as subject matter specialists. Built on the assumption that schools are complex environments in which larger social and cultural issues inevitably and continuously impact the work of teaching and learning, this course presents selected knowledge and experiences designed to introduce students to some of the complexities of responsible teaching. CI 412W: Secondary Teaching II is strategically located toward the end of education course work to allow students an opportunity to explore the "big picture" of secondary education in a holistic, integrated manner. Students from various disciplines work together to explore their own identity as teachers, as well as the myriad of curricular, instructional, social, and political issues connected to middle school and high school education. To accomplish this, you will be given an opportunity to engage in constructing the course curriculum. At the heart of this is an integrated curriculum that will approach teaching and learning from a holistic, interdisciplinary perspective.

Writing

This course is designated "W" for intensive writing. You will be expected to engage in several written assignments as well as the revision process. Your grade will reflect attention to writing skills and conventions, in addition to the content and substance of what you write.

Required Texts

- CI 412W Course Packet
- Beane, J. (1997). Curriculum Integration: Designing the Core of Democratic Education. New York: Teacher's College.

Optional Texts

- A collection of various texts are available at the bookstore. The choice of which books you buy will be based upon the topics you select and the individual needs of each student. All books will also be available on reserve in the Education Library in Rackley Building.

Structure

During the first few class sessions, we will all (students and instructors) engage a series of activities that will help determine the course curriculum. To that end, we will attempt to answer three foundational questions:

1. What questions or concerns do I have about myself as a teacher?
2. What questions or concerns do I have about education?
3. What questions or concerns about education does the world pose to prospective teachers that they may not see or know about?

From these questions, we will create organizing themes or topics that will address your current (and future!) needs and interests. Teams will then be formed around those themes and then assigned to one of the four instructors. For the remainder of the course, we will work in smaller class sections for discussion and team activities.

A few of the early small class sessions will be devoted to an exploration of various conceptions of teaching. The purpose of this section of the course is to enable students to develop an understanding of a variety of teaching approaches so that each student may make more informed and reasoned choices concerning his/her own philosophy of teaching and teaching repertoire. Several other class sessions will be used for teaching modules based upon four themes that the instructors feel are essential to your work as educators. These will also address the third foundational question listed above. These module themes are inclusion, multiculturalism, classroom learning environments, and literacy.

Course Assignments

I. Each student will engage in an in-depth examination of a substantive educational question or issue with a group of peers. The question or issue which serves as the focus for this in-depth study will be determined by the students in the course with guidance from the course instructors. The knowledge and insights gained by group members through their joint investigations will be exhibited for students and instructors in multiple ways:

A. Each student team will teach a lesson on the educational issue or question to other members of the class. The lesson will need to be researched, planned, taught, and evaluated. Every member of the team must be involved in all aspects of the lesson planning and implementation. The lesson should be interesting and informative to the other students in the class and should address in some way the module topics (inclusion, multiculturalism, classroom learning environments, literacy). Team presentations will occur in the seventh and eighth weeks of class. Each team will need to schedule their lesson with the instructor. Teams are responsible for scheduling equipment (e.g. computers, VCRs, etc.) and acquiring materials for their presentation. The following items must be completed to receive credit:

- the group will submit a proposal for the lesson which includes the topic, rationale, areas of individual research, and a concept map/web of the topic
- each team member will submit an in-depth review of their research that identifies sources, key points, issues of concern, and connections to other members' research areas
- the group will submit a fully developed lesson plan, including objectives, rationale, materials, activities, and evaluation.
- each group will develop and implement an evaluation of the lesson that will be collected from every student audience member. This critique should include both positive and critical feedback analyzing all aspects of the lesson. These critiques will be used by the team members in writing their self-evaluations and revising their lesson.
- each team member, after presenting the lesson and reading student audience evaluations, will write an evaluation of the lesson using the evaluation rubric developed before the lesson. This self-evaluation will discuss their personal performance in the lesson, and suggest ways in which they would revise the lesson.

B. Each team will present a poster display based upon their issue or question. This poster display will be presented at a poster session held on the last day of class and will be "open to the public". Team members should be prepared to explain their poster to all CI 412 students and any guests who visit the poster session.

II. Each student is expected to maintain a journal during the course. Instructors will assign journal topics and collect journals from time to time. Students are encouraged to write in their journal each week, reflecting on class discussions, readings, individual research, observations, and team meetings.

III. The final assignment for the course is a reflective portfolio. It is an opportunity to individually react to the various presentations, readings, and discussions and to respond to the foundational questions posed in the first week. It should be a representation of what you have learned about teaching from this experience.

IV. Other assignments will occur throughout the semester based upon individual instructor needs and student created lessons. These assignments will be closely linked to the work done in each section.

Overall Course Assessment

Although assessment can be used to assign course grades, we see the major purpose of assessment as providing a jointly developed comprehensive picture of a student's development as a professional educator. Assessment will be handled in several ways. For some of the assignments, the instructor will provide specific assessment guidelines. Other assignments will be assessed according to guidelines negotiated between class participants and the instructor. The process of critical assessment is complex and requires multiple forms of evaluation, both objective and subjective. In this case, assessment is the process of incorporating instructor knowledge and information negotiated with the student's knowledge and performance, as well as peer review. With all this in mind, the descriptions below will provide guidelines of expected performance. These guidelines establish a continuum of expectations within which an individual student's performance may fall.

Full participation every day is essential to this course. Attendance is mandatory. Unexcused absences will result in reduced final grades. All assignments must be submitted on time.

To earn a grade of "C" for the course students must attend and participate in all classes, complete all assignments punctually, and demonstrate an understanding of course material through written assignments and the reflective portfolio.

The degree to which a student earns a grade above "**C**" will be determined by how well he/she demonstrates achievement of the course goals and the goals of the secondary education program. A student whose performance is oustanding, i.e. worthy of an "**A**" grade, would be described in the following terms: demonstrates a deep understanding of all course content; consistently thoughtfully analyzes and synthesizes course content; demonstrates a willingness to be self-directed and to take responsibility for his/her own learning; consistently interacts with others sensitively, ethically and honestly; consistently contributes to the learning of others through team, small group, and large group learning activities; is competent in written and oral communication; demonstrates the ability to learn from constructive feedback from others; and provides evidence of engaging in critical reflection concerning course content and his/her own performance.

Secondary Teacher Education Program Conceptual Framework

This course and others in the secondary education program are unified under a common conceptual framework. The overall conceptual framework can be found on the yellow pages which follow. In this course, CI 412W, you will develop understandings related to each of the five nodes of the framework.

With regard to **understanding how students learn and develop** you will be engaging in study of issues related to the development of students' identity and its relationship to issues of culture, race, class, and gender. You will also be examining the notion of inclusion, exceptionality and their relationship to development. In terms of **developing pedagogical understanding**, you will be examining a variety of conceptions of what good teaching means and also exploring an issue or questions about pedagogy in-depth. With regard to **managing and monitoring learning and development**, you will be exploring the topic of creating classroom learning communities as well as exploring a variety of instructional strategies. With regard to the notion of **educators as members of learning communities**, you will find yourself emerged in three communities within this course, a small group team which will be exploring an issue together, a section of students who will be exploring related issues, and the entire class community of CI 412. Each of these communities includes students from other disciplines. Finally, with regard to the notion of **educators as life-long learners**, the central focus of the program, you will be expected to engage in an in-depth study of a particular issue or questions which is important to you and to share the products of your inquiry with your colleagues. One of the major rationales for this activity is to help prospective teachers understand that it is their responsibility to continue to grow, develop, inquire, and reflect throughout their entire careers. By comparing the course design to the conceptual framework you can see how this course contributes to your development as a secondary teacher.

Daily Schedule

Wednesday, August 26 - Meet in large group session: Topic Development
Monday, August 31 - Continue Topic Development
Wednesday, September 2 - Finish Topic Development and Form teams
Wednesday, September 9 - Meet in small class sections: Study Planning
Monday, September 14 - Conceptions of Teaching ***Proposal due***
Wednesday, September 16 - Conceptions of Teaching
Monday, September 21 - Conceptions of Teaching
Wednesday, September 23 - Arts and Multiple Intelligences Presentation
Monday, September 28 – Conceptions of Teaching ***Review of Research due***
Wednesday, September 30 - Modules
Monday, October 5 - Modules ***Lesson Plan due***
Wednesday, October 7 - Modules ***Evaluation Rubric/Criteria due***
Monday, October 12 - Modules
Wednesday, October 14 – Presentation of lessons
Monday, October 19 - Presentation of lessons
Wednesday, October 21 - Presentation of lessons
Monday, October 26 - Presentation of lessons
Wednesday, October 28 – Curriculum Integration
Monday, November 2 - Curriculum Integration ***Final Portfolio Due***
Wednesday, November 4 - Poster Session 2nd Floor Breezeways, Chambers Building